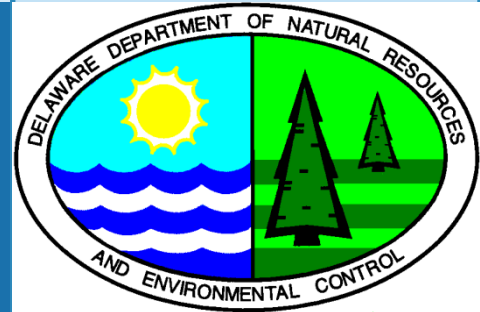


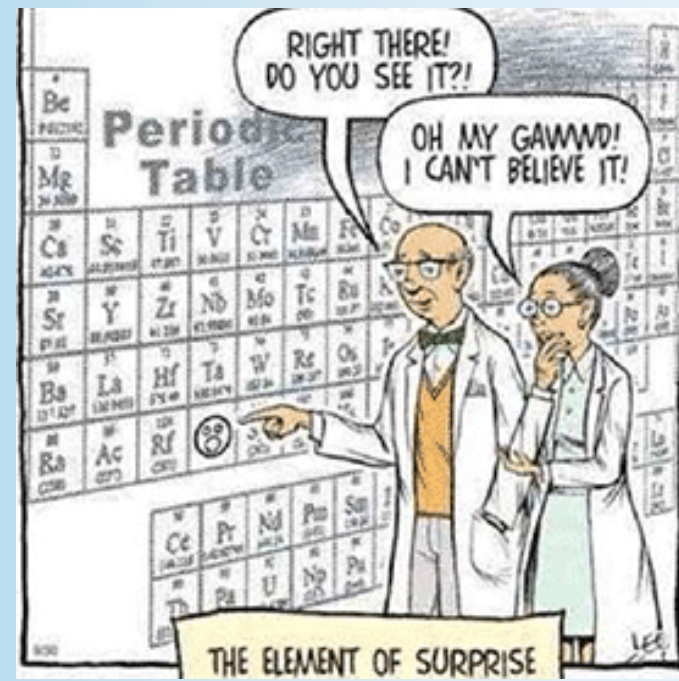
DNREC EQuIS Information Session for Contractors

July 2014



Introductions

- DNREC – Steph Scholl
- CDM Smith – Catherine Love
- EarthSoft – Kristin Cotreau



Agenda

- Goals
- What is EQuIS?
- What are the benefits of DNREC using EQuIS?
- Introduction to the EQuIS Workflow for loading data
- What is an EDD format?
- In depth look at DNREC EDD
- Break (10-15 minutes)
- Reviewing EDDs with EDP
- Submitting data to DNREC – acceptance and revisions
- Review of Resources



Goals

- Understand why DNREC is using EQuIS
- Understand the basics of the EQuIS workflow
- Understand how to submit data
- Understand what resources are available for DNREC contractors
- Understand the obligation to submit data



What is Site Data Management?

Site Data Management – The collection, processing, analyzing, and communicating project site data to assist in decision making.

“A good system’s design will promote it’s use, and the ultimate value of data are in the data’s use rather than in the storage.”

“The real importance of a data management system is to provide the end user with a consistent data set of known quality”

Long-Term Groundwater Monitoring – The State of the Art. The Task Committee on the State of the Art in Long-Term Groundwater Monitoring Design of the Environmental and Water Resources Institute. Reston, Virginia: American Society of Engineers, 2003.



What is EQulS?

- Environmental Data Management Solution created by EarthSoft
- 3rd Party Software that uses SQL Server or Oracle as the back end database
- Structured database designed especially for environmental data.

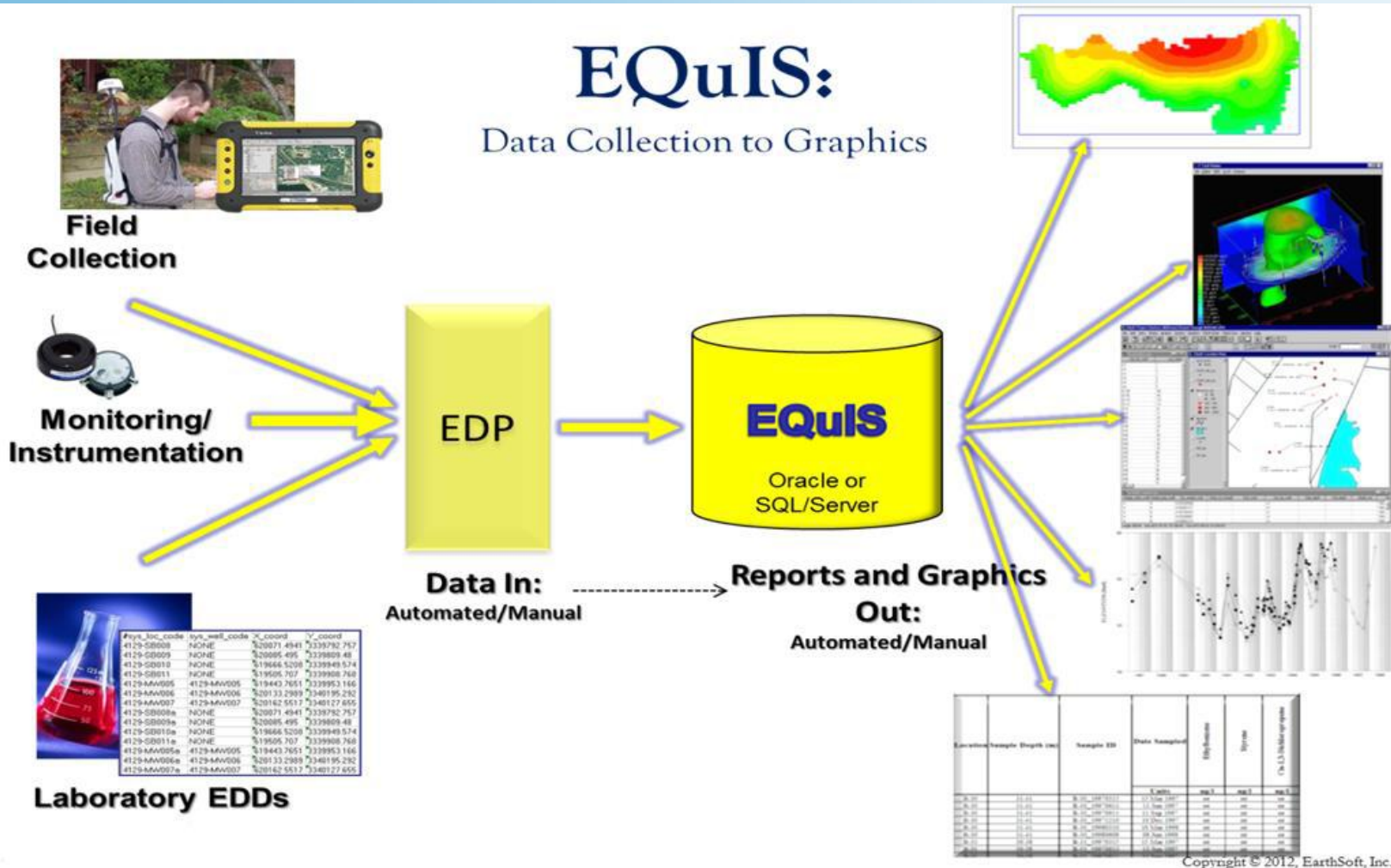
The screenshot displays the EQulS Professional software interface. The top menu bar includes Home, GIS, Modeling, Logs & Diagrams, Statistics & Assessment, CAD, Government Exports, and Misc. Exports. Below the menu is a toolbar with icons for EDP, EQulS 3.x Database Import, EQulS 5 Facility, Action Levels, Groups, Active Reports, Reference Tables, Data Tables, Views, Reports, Forms, Lithology, Isopleth, Vertical Profile, and SPM. The main window is divided into two panes. The left pane, titled '(Beta) Analytical Results', shows a list of samples with columns for Sample ID, Name, Date, and Location. The right pane, titled 'Sample', contains fields for Name, Location, Date, Matrix Code, Start Depth, and End Depth. Below these fields is a 'Test' section with fields for Analysis, Analysis Date, Fraction, and Test Type. At the bottom of the right pane is a table with columns: TEST_ID, CAS RN, CHEMICAL_NAME, RESULT_TYPE_CODE, and RESULT_TEXT. The table contains 10 rows of data.

TEST_ID	CAS RN	CHEMICAL_NAME	RESULT_TYPE_CODE	RESULT_TEXT
201114	10061-01-5	CIS-1,3-DICHLOROPROPE...	TRG	
201114	10061-02-6	TRANS-1,3-DICHLOROPRO...	TRG	
201114	106-46-7	1,4-DICHLOROBENZENE	TRG	
201114	107-06-2	1,2-DICHLOROETHANE	TRG	
201114	108-90-7	CHLOROBENZENE	TRG	
201114	124-48-1	DIBROMOCHLOROMETHA...	TRG	
201114	127-18-4	TETRACHLOROETHENE	TRG	
201114	156-59-2	CIS-1,2-DICHLOROETHENE	TRG	
201114	156-60-5	TRANS-1,2-DICHLOROET...	TRG	
201114	541-73-1	1,3-DICHLOROBENZENE	TRG	



EQuIS Workflow

EQuIS: Data Collection to Graphics



Copyright © 2012, EarthSoft, Inc.



Understanding the EQuIS Database

What is a facility?

- According to EarthSoft, “A facility is the physical or logical extent of data that is made available for reporting or modeling” and it “...may correspond to physical boundaries within which investigation or remediation is being conducted”. The DNREC EQuIS database consists of numerous facilities. “Facility” and “site” may be used interchangeably. Each facility is assigned a facility_code.

What is a facility_code?

- A facility_code is the DNREC ID for the site. For example: DE-0321. The facility_code is used to identify the site in the database. Please contact the DNREC project officer assigned to the site if you are unsure of the facility_code.



Understanding the EQuIS Database

Basic Database Structure:

Facility (Old Gas Station A (DE-XXXX))

Subfacility (OU-1...operable unit 1)

Location (GSMW-01)

Sample (GSSO-01D...deep soil sample)

Test (SW8260 = VOCs by GC/MS)

Result (Benzene = 10 mg/kg)

Holds lots of other data too....



Benefits of EQUIS:

Excellent at dealing with large volumes of data



- Storing lots of information in one systematically accessible place
- Security of the data
- Ability to relate two or more pieces of data

Benefits of EQuIS: Data Quality

EQuIS has built in tools to help promote:

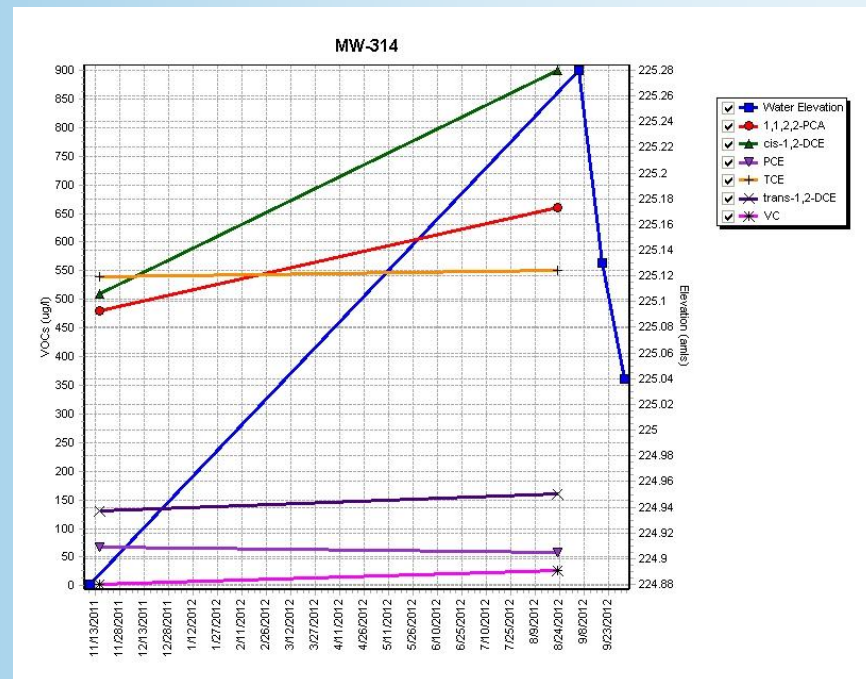
- Quality
- Consistency
- Completeness

When we create a workflow with these tools, we create quality data



Benefits of EQulS: Consistency Across Projects

- Ability to analyze data across a single project and across multiple projects
- Helps regulatory agencies understand how data is presented over space and time
- Trends, bias.....decision making



Trend Plot Map with Water Levels created in EQulS



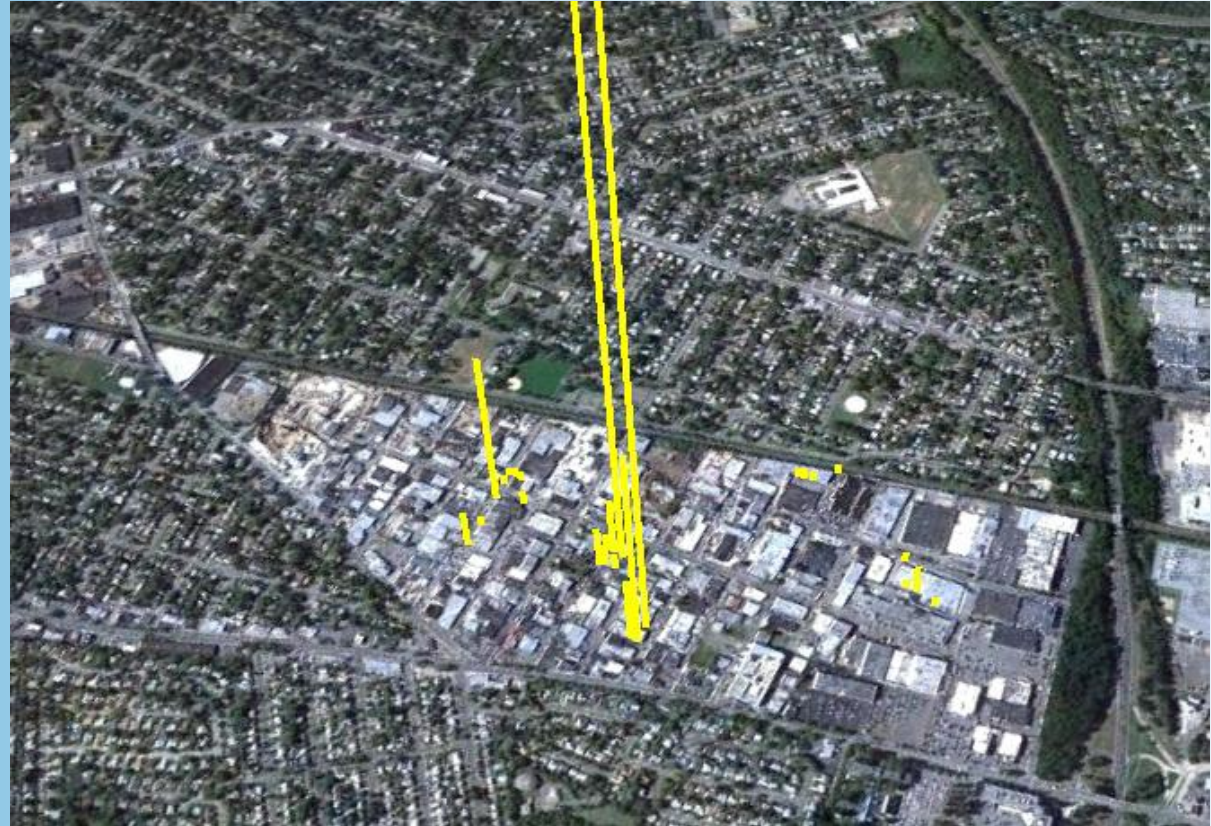
Google Earth – Location Map

- EQuIS location data can be directly imported into Google Earth



Google Earth – 3D Cylinder Map

- Displays the extent of concentration with the depth of the cylinder



EQuIS – Action Level Exceedance Report

Location		ACS-G-12		ACS-G-14		ACS-G-15	ACS-G-16	OU-1-1		
Sample		ACS-G-12(0-2)	ACS-G-12(2-4)	ACS-G-14(0-2)	ACS-G-14(2-4)	ACS-G-15(3-4)	ACS-G-16(0-2)	OU-1-1(0.0-2.0)	OU-1-1(2.0-4.0)	OU-1-1(4.0-5.0)
Matrix		SO	SO	SO	SO	SO	SO	SO	SO	SO
Sample Type		N	N	N	N	N	N	N	N	N
Sample Date		3/14/2014	3/14/2014	3/14/2014	3/14/2014	3/14/2014	3/14/2014	2/28/2014	2/28/2014	2/28/2014
Unit		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Chemical Name	DNREC-SIRS Screening Level									
SW8082										
AROCOR 1016	0.39	< 0.018 U	< 9.1 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.8 U	< 0.18 U	< 0.18 U	< 0.095 U
AROCOR 1221	0.14	< 0.018 U	< 9.1 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.8 U	< 0.18 U	< 0.18 U	< 0.095 U
AROCOR 1232	0.14	< 0.018 U	< 9.1 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.8 U	< 0.18 U	< 0.18 U	< 0.095 U
AROCOR 1242	0.22	< 0.018 U	< 9.1 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.8 U	< 0.18 U	< 0.18 U	< 0.095 U
AROCOR 1248	0.22	< 0.018 U	< 9.1 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.8 U	< 0.18 U	< 0.18 U	< 0.095 U
AROCOR 1254	0.11	0.11	69	4.8	6.2	< 1.9 U	4.3	0.65	< 0.18 U	< 0.095 U
AROCOR 1260	0.22	0.13	< 9.1 U	7.6	9.6	7.4	7	0.6	1.6	0.21
Polychlorinated biphenyls (PCBs)	0.22	NA	NA	NA	NA	NA	NA	1.3	NA	0.21

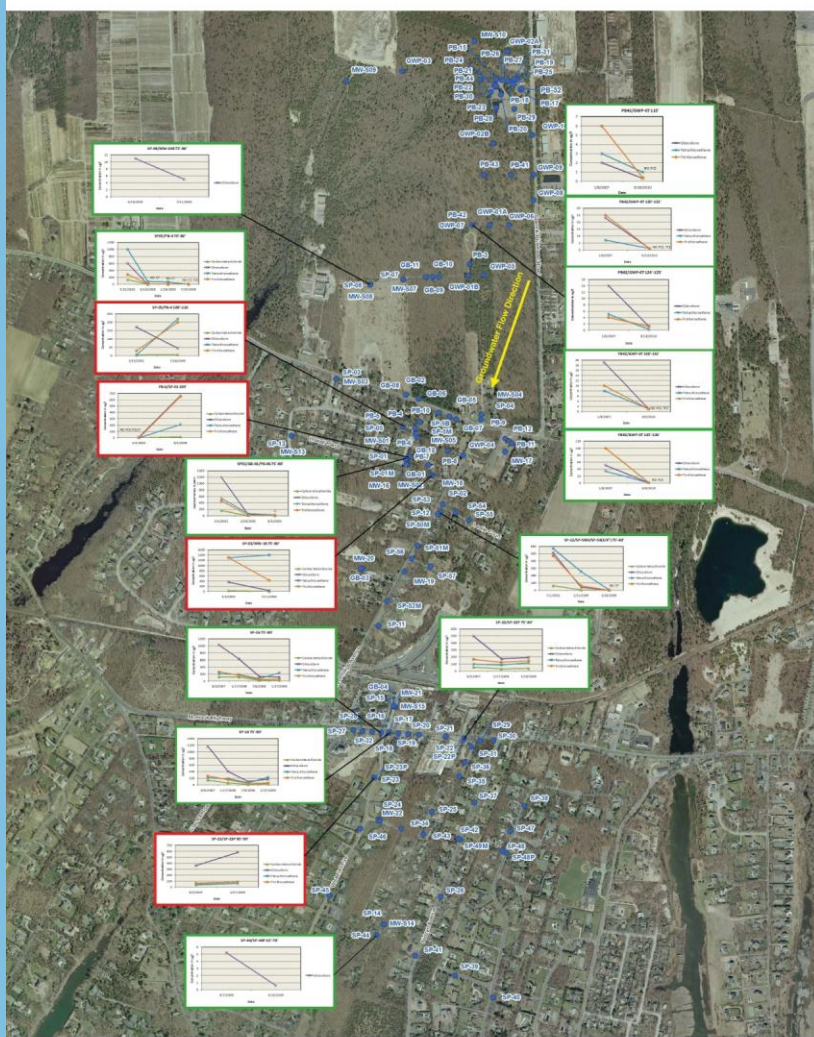


ArcGIS – Exceedance Level Map

- EQuIS ArcGIS toolbar connects to reports available in EQuIS
- Provides basic symbolization tools



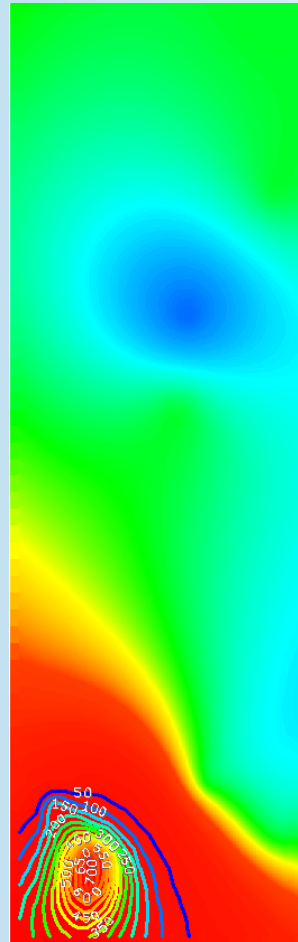
ArcGIS - Co-Located Samples Trend Map



This trend map was made by exporting co-located sample data to Excel to create the graphics and then ArcGIS was used to create the map.

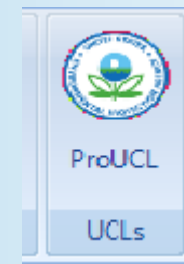
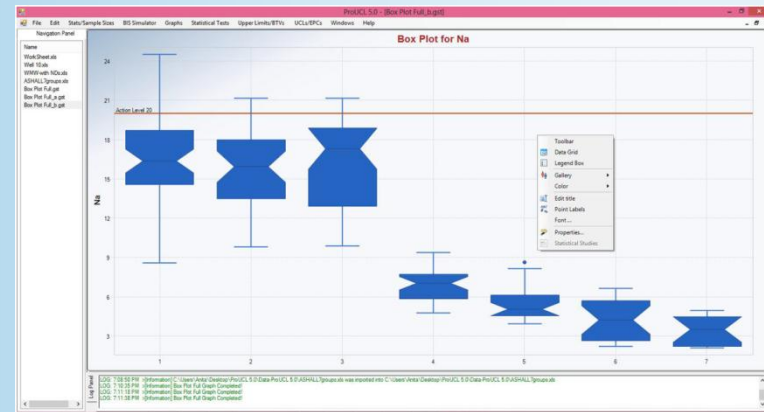
ArcGIS/Surfer – Contour Map

- Select data with the EQuIS for ArcGIS toolbar
- Make a data table that has one result per location using the cross tab tool
- Contours are create in Surfer and automatically displayed in ArcGIS.



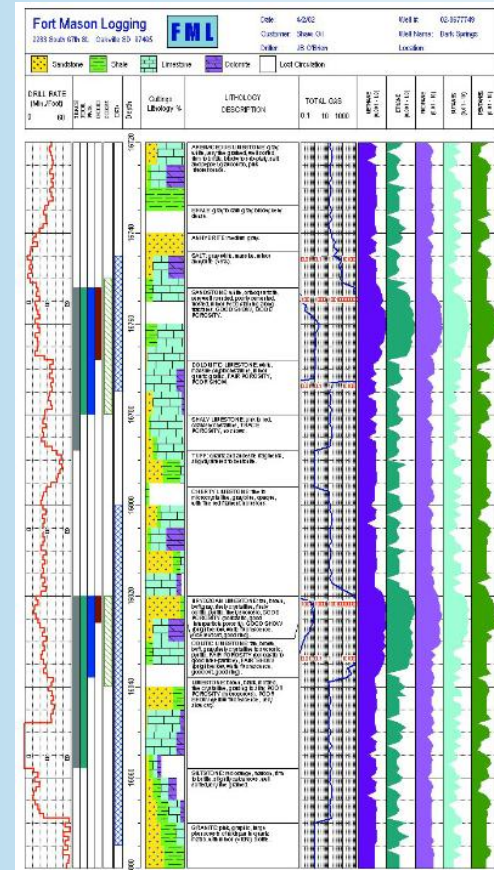
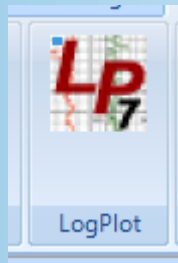
ProUCL – Statistical Package

- ProUCL is a statistical software package for analysis of environmental data sets with and without nondetect (ND) observations.
- It is a comprehensive statistical software package with statistical methods and graphical tools to address many environmental sampling and statistical issues



Log Plot

- **LogPlot** software is used to display geotechnical, environmental, geophysical, mud/gas, and mining data as a graphic boring log.



Introduction to the EQuIS Workflow



What is an EDD?

- Electronic Data Deliverable
- Template for organizing data in a prescribed method
- File containing data to be loaded into the database
- May be produced by a laboratory (analytic data)
- Data (such as field measurements) may be manually filled in

6.2.1 Sample EDD

<i>\$data_provider</i>	<i>sys_sample_code</i>	<i>sample_name</i>	<i>sample_matrix_code</i>	<i>sample_type_code</i>	<i>sample_source</i>	<i>parent_sample_code</i>
<i>\$Text(20)</i>	<i>Text(40)</i>	<i>Text(50)</i>	<i>Text(3)</i>	<i>Text(20)</i>	<i>Text(10)</i>	<i>Text(40)</i>
ABC Consulting	MW-001-20140507	MW-001	WG	N	Field	
ABC Consulting	SB-005S-20140501	SB-005S	SO	N	Field	
ABC Consulting	SB-005D-20140501	SB-005D	SO	N	Field	
ABC Consulting	Dup-01-20140501	Dup-01	SO	FD	Field	SB-005D-20140501
ABC Consulting	SB-005S-MS-20140501	SB-005S-MS	SO	MS	Lab	SB-005S-20140501
ABC Consulting	SB-005S-SD-20140501	SB-005S-SD	SO	SD	Lab	SB-005S-20140501
ABC Consulting	FB-01-20140501	FB-01	SQ	FB	Lab	
ABC Consulting	TB-01-20140501	TB-01	SQ	TB	Lab	
ABC Consulting	40148.6826-LB	40148.6826-LB	SQ	LB	Lab	



What is an EDD Format?

- A set of files that work together with the EQUIS Data Processor (EDP) to ensure that data that is loaded will meet a certain standard.
- Built into the EDD format is a set of business rules that the data must follow - All field duplicates must have a parent sample
- The format also connects to the valid value files to make sure that data is consistent.

```

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  <add:field source="sample_matrix_code" target="sample_matrix_code" />
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DNREC EDD Format

- New DNREC EDD reflects the agency's data collection goals
- Similar to New York State Department of Environmental Conservation (NYSDEC) EDD Format
- Many states are working with EarthSoft to coordinate efforts with their EDD formats. This provides a cost savings and let's states collaborate and learn from each other



DNREC EDD Format Data Groupings

Initial

Data Provider

Subfacility

Location

Files

Subsurface Investigation

Drill Activity

Downhole Point

Lithology

Well

Well Construction

Geology Samples

Water Table

-

Field Activities

Water Level

Extraction Injection Wells

Soil Gas

Field Results

DNREC Screening Results



DNREC EDD Format Groupings

Chemistry

Sample

Sample Parameter

Test Result QC

Batch

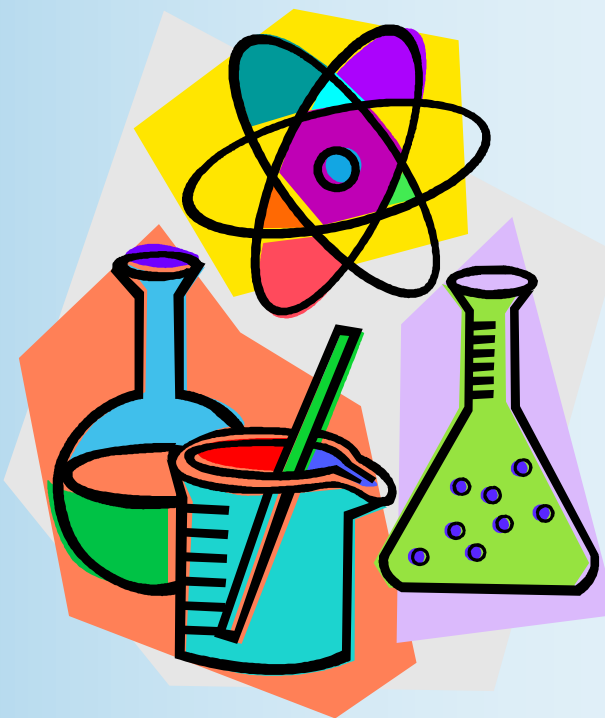
Basic Historical

Basic Locations

Basic Water Level

Basic Chemistry

Basic Geology



Demonstration: Overview of an EDD Format

Field Name	Data Type	Key	Required	Default	Parent	Lookup	Database Mapping(s)
<u>sys_sample_code</u>	Text(40)	PK	Y		Sample_v3.sys_sample_code		
<u>lab_anl_method_name</u>	Text(35)	PK	Y			rt_analytic_method.analytic_method	dt_test.analytic_method
<u>analysis_date</u>	DateTime	PK	Y				dt_test.analysis_date
<u>fraction</u>	Text(10)	PK	Y			rt_fraction.fraction	dt_test.fraction
<u>column_number</u>	Text(2)		Y	NA		(Enumeration: column_number)	dt_test.column_number
<u>test_type</u>	Text(10)	PK	Y	INITIAL		rt_test_type.test_type	dt_test.test_type
<u>lab_matrix_code</u>	Text(3)		Y			rt_matrix.matrix_code	dt_test.lab_matrix_code
<u>analysis_location</u>	Text(2)		Y			(Enumeration: analysis_location)	dt_test.analysis_location
<u>basis</u>	Text(10)		Y	NA		(Enumeration: basis)	dt_test.basis
container_id	Text(30)						dt_test.container_id
<u>dilution_factor</u>	Numeric		Y	1			dt_test.dilution_factor
<u>prep_method</u>	Text(20)					rt_prep_method.prep_method	dt_test.prep_method
prep_date	DateTime						dt_test.prep_date
leachate_method	Text(15)						dt_test.leachate_method
leachate_date	DateTime						dt_test.leachate_date
<u>lab_name_code</u>	Text(20)		Y			rt_company.company_code	rt_company.company_name dt_test.lab_name_code
<u>qc_level</u>	Text(10)		Y			(Enumeration: qc_level)	dt_test.qc_level
<u>lab_sample_id</u>	Text(40)		Y				dt_test.lab_sample_id
percent_moisture	Text(5)						dt_test.percent_moisture



DNREC EDD Submittal Manual

- Gives guidance on how to fill out and submit data to DNREC.
- Includes information on valid values
- Provides instructions on how to handle re-tests, non-detects, TICs qualifiers etc

Electronic Data Deliverable Submittal Requirements Manual for EQulS



State of Delaware

Department of Natural Resources and Environmental Control

Division of Waste and Hazardous Substances

Site Investigation and Restoration Section

July 2014



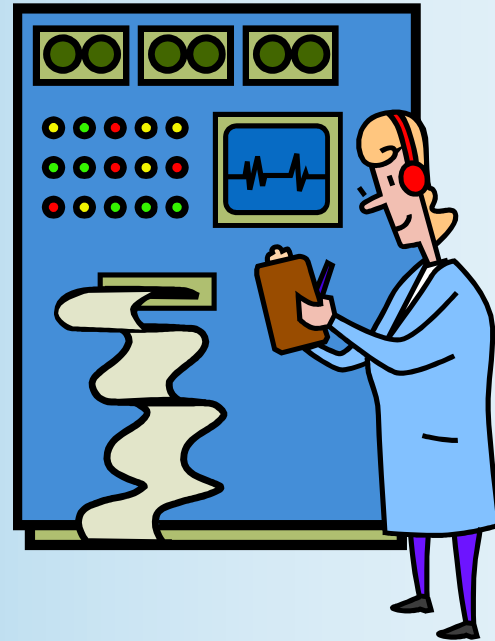
Submittal Manual Outline

1. Introduction
2. General Requirements
 - 2.1 DNREC EDD Format
 - 2.2 Prior to Submitting EDD Files to DNREC
 - 2.3 Submitting EDD Files to DNREC
 - 2.4 Creating EDD Files
 - 2.5 Naming and Saving EDDs
 - 2.6 Checking EDD Files with EDP
3. Initial EDD Files
4. Subsurface Investigation EDD Files
5. Field Activities EDD Files
6. Chemistry EDD Files
7. Basic Historical EDD Files
- Appendix A – DNREC EDD Format Description



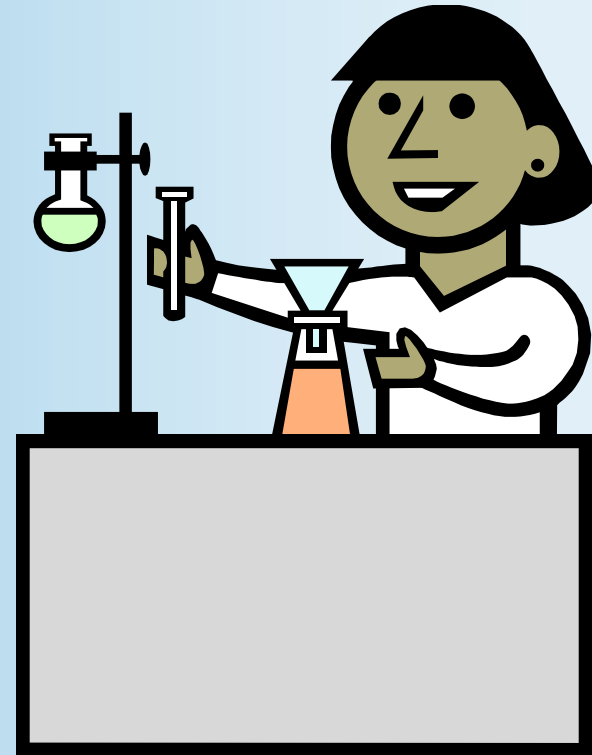
Consultants as Data Providers

- Consultants are responsible for the submittal of field and lab data from any subcontractors that are providing data collection, laboratory or validation services
- Consultants are responsible for the completeness and quality of the data



Laboratory as Data Providers

- Labs contracted by a consultant should submit lab EDD files to the consultant and not to DNREC directly
- Labs contracted by DNREC should submit lab EDD files via email to DNREC



Minimum Required EDD Sections to Populate

Required Sections:

- Location – location name and coordinates
- Lithology- lithologic data from soil samples or drill cuttings
- Samples – sample date, location, type, matrix source, start & end depth
- TestResultsQC – tests, results and quality control data
- Batch – data associating samples with lab batch identifiers

Additional Required Sections for Wells:

- Wells – installation date, well permit #, top of casing elevation, depth of well, stick up height.
- WaterLevel – water level measurements including water level depth and water level elevation.



Submitting EDDs to DNREC: Pre-Submittal

- Before submitting EDD files, it is important that data providers contact the DNREC-SIRS project officer assigned to the site first (and prior to sampling) to determine what site data should be submitted via EDDs.
- Then if it is a new site, the SIRS project officer and/or the data provider must provide some basic site/facility information directly to the DNREC EQulS database management team via email at DNREC_EQulS@state.de.us. This information should include the following:
 - Facility Name
 - Facility DE #
 - DNREC-SIRS Project Officer Name
 - Data Provider Name (consultant company name & primary contact person for EDDs)
 - Facility Address (street, city, zip code, county)
 - Program the Facility is part of (PA/SI, Brownfields, VCP, HSCA)



Creating a New EDD

Populated EDD by:

- Adding data directly to blank EDD
- Working with lab to populate EDD

Acceptable files include:

- 1. Excel workbook (.xls or .xlsx)
- 2. Access database (.mdb or .accdb)
- 3. Individual Tab delimited file (.txt)
- 4. Individual Comma delimited file (.csv) (aka Comma separated file)
- 5. Zip file (.zip) with individual files included



Required Fields

- Data providers must populate all *required* fields in the EDD sections which are submitted to DNREC. In general, **Red** fields are required fields and must be populated.
- **Red and underlined** fields are required and are primary key fields, meaning they must be unique in the database. Required fields are also distinguished in the *DNREC EDD Description* file.
- Although required fields must be populated, DNREC encourages data providers to populate non-required fields as well when relevant information is available



Controlled Vocabulary/Look Up Fields

- Specific fields have controlled vocabulary and must be populated in compliance with DNREC reference and/or enumerated values.
- Data providers must look to the appropriate reference table or section of the enumeration file (DNREC-enum.xsd) to determine what values are valid for the field.
- In EDP, a drop-down list of these valid values is available for each field.



Reference Values

- **Reference value** fields must be populated with values from a designated reference table and by default they are blue.
- Reference values (aka valid values or lookups) may be viewed by reference table under the “Reference Values” tab in EDP when the DNREC.rvf file is loaded.
- DNREC reference values are also located in an Excel document on DNREC’s EQuIS webpage. To determine what reference table is associated with a specific field, data providers may hover over the blue field header in EDP or they may view the Lookup column of the EDD Description Tool in EDP.



Reference Values - CAS RN

- Look up on the CAS RN not on the chemical name
- Database imports the CAS RN and leaves behind the chemical name
- When the database runs a report it uses the chemical name from rt_analyte table



Null Values

- If a field is not required and contains no information (a null field), it cannot be removed from the EDD; instead, it must remain blank.



Re-Tests

- For initial tests, all analytes should be reported.
- In the case where retests are performed on a sample (i.e. Dilution1, Dilution2, Reextract1, etc.), the result that is considered the reportable result should indicate “Yes” in the reportable_result field.
- The initial test, and any retest result not considered reportable should have reportable_result set to “No”.

Test_type	Cas_rn	Chemical_name	Result_value	Reportable_result	Detect_flag	Lab_qualifiers	Result_comment
Initial	79-01-6	Trichloroethene	2000	No	Y	E	Too concentrated
Dilution1	79-01-6	Trichloroethene	500	Yes	Y		



Non-Detects

- When reporting non-detects in the EDD files, the result_value must be null, the detect_flag must be 'N', and the reporting_detection_limit and reporting_detection_limit_unit must be populated.
- The laboratory should assign a qualifier of 'U' to the result in the lab_qualifier and interpreted_qualifier . Even though the result may be non-detect, it is still considered a reportable_result ; therefore reportable_result should be 'Yes'.
- Alternatively, if a result is detected and the detect_flag = 'Y', then the result_value field must be populated.

Cas_rn	Result_value	Reportable_result	Detect_flag	Reporting_detection_limit	Detection_limit _unit	Lab_qualifier
7440-38-2	11	Yes	Y	2.2	mg/kg	
7440-38-2		Yes	N	2.2	mg/kg	U



Qualifiers

- Data providers must refer to the codes and definitions within DNREC's reference table for qualifiers (rt_qualifier). The data provider should select the code that best matches the definition of the qualifier used to qualify the results.
- Example: If the laboratory defines qualifier 'H' as 'sample was prepped or analyzed beyond the specified holding time' but in DNREC's rt_qualifier 'H' is defined as 'sample is estimated and biased high' then the lab cannot use the qualifier code of 'H'. The lab should instead use the DNREC code of 'V' to indicate that the sample was prepped or analyzed beyond the specified holding time.



Validation

- If data is validated, the validator's qualifiers should be included in validator_qualifiers field.
Interpreted_qualifier should include both the lab_qualifier and validator_qualifier entries combined
- If the data was not validated, the values in lab_qualifier should be copied into the interpreted_qualifier field



Tentatively Identified Compounds (TICs)

- Tentatively Identified Compounds (TICs) should be reported when detected.
- The TICs should first be identified to the analyte name if possible and then to the class of the TIC (i.e. Unknown PAHs). If the TIC cannot be identified by analyte name or class, it should be identified as “Unknown”.
- All TIC results should have “TIC” in the result type code field.

Cas_rn	Chemical_name
UNKNOWN1	UNKNOWN with highest conc.
UNKALCOHOL2	UNKNOWN ALCOHOLS with 2nd highest conc.
UNKALKALDHYDE1	UNKNOWN ALKYL ALDEHYDES with highest conc.
UNKALKKEYTONE1	UNKNOWN ALKYL KEYTONES with highest conc.
UNKAROMATIC10	UNKNOWN AROMATICS with 10th highest conc.
UNKCARBACID4	UNKNOWN CARBOXYCYLIC ACID with 4th highest conc.
UNKHYDROCARB1	UNKNOWN HYDROCARBONS with highest conc.
UNKPAH1	UNKNOWN PAHS with highest conc.
UNKSV5	UNKNOWN Semi-Volatile with 5th highest conc.
UNKVOA8	UNKNOWN VOA with 8th highest conc.



Specific Examples

- The Submittal Document (Sections 3- 7) contains a description of and specific examples of populated tables
- Appendix A contains the EDD Description information

6.2.1 Sample EDD

\$data_provider	sys_sample_code	sample_name	sample_matrix_code	sample_type_code	sample_source	parent_sample_code
Text(20)	Text(40)	Text(50)	Text(3)	Text(20)	Text(10)	Text(40)
ABC Consulting	MW-001-20140507	MW-001	WG	N	Field	
ABC Consulting	SB-005S-20140501	SB-005S	SO	N	Field	
ABC Consulting	SB-005D-20140501	SB-005D	SO	N	Field	
ABC Consulting	Dup-01-20140501	Dup-01	SO	FD	Field	SB-005D-20140501
ABC Consulting	SB-005S-MS-20140501	SB-005S-MS	SO	MS	Lab	SB-005S-20140501
ABC Consulting	SB-005S-SD-20140501	SB-005S-SD	SO	SD	Lab	SB-005S-20140501
ABC Consulting	FB-01-20140501	FB-01	SQ	FB	Lab	
ABC Consulting	TB-01-20140501	TB-01	SQ	TB	Lab	
ABC Consulting	40148.6826-LB	40148.6826-LB	SQ	LB	Lab	

sample_delivery_group	sample_date	sys_loc_code	start_depth	end_depth	depth_unit	chain_of_custody	sent_to_lab_date
Text(20)	DateTime	Text(20)	Numeric	Numeric	Text(15)	Text(15)	DateTime
B200	2014/5/7 08:00:00	MW-001	10	20	ft		2014/5/7 00:00:00
A100	2014/5/1 09:00:00	SB-005	0	2	ft		2014/5/1 00:00:00
A100	2014/5/1 09:10:00	SB-005	8	10	ft		2014/5/1 00:00:00
A100	2014/5/1 08:00:00	SB-005	8	10	ft		2014/5/1 00:00:00
A100	2014/5/1 09:00:00	SB-005	0	2	ft		2014/5/1 00:00:00
A100	2014/5/1 09:00:00	SB-005	0	2	ft		2014/5/1 00:00:00
A100	2014/5/1 08:00:00						2014/5/1 00:00:00
A100	2014/5/1 08:00:00						2014/5/1 00:00:00
A100	2014/5/3 12:00:00						2014/5/1 00:00:00

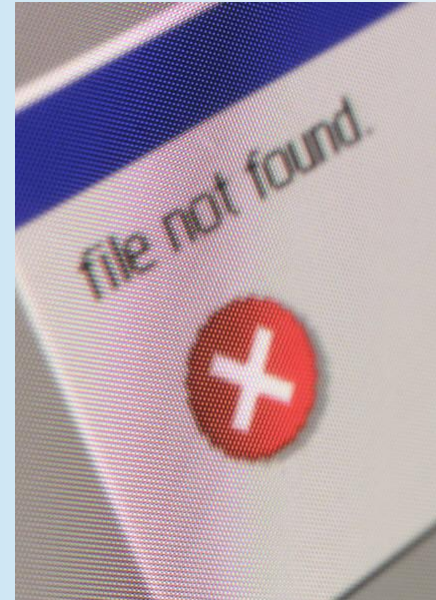
Test Result QC EDD Format

Position	Field Name	Data Type	Required	Lookup	Comment
A	sys_sample_code	Text(40)	Y		Unique sample identifier. Each sample at a facility must have a unique value, including spikes and duplicates. sys_sample_codes cannot match sys_loc_codes. DNRDC prefers using the sys_loc_code as part of the sample ID and adding a date in the format (YYYYMMDD) in order to make it unique. For example: MW-001 + June 06, 2001 = MW-001-20010606. For trip blanks that do not have unique sample IDs, enter TB plus the date, e.g., TB + April 5, 2000 = TB-20000405. Non alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_sample_code. Other segments can be added to the sample ID, such as information regarding the sample type, sample round, or sample depths.
B	lab_and_method_name	Text(35)	Y	rt_analytic_method.analytic_method	Laboratory analytical method name or description. Use code from rt_analytic_method.analytic_method valid values table. Example: SW8260, EL30.1, etc.
C	analysis_date	DateTime	Y		Date and time of sample analysis in MM/DD/YYYY HH:MM:SS format. May refer to either beginning or end of the analysis as required.
D	fraction	Text(10)	Y	rt_fraction.fraction	Must be either 'D' for dissolved or filtered [metal] concentration, or 'T' for total or 'NA' for not applicable.
E	column_number	Text(2)	Y	(Enumeration: column_number)	Report as null.
F	test_type	Text(10)	Y	rt_test_type.test_type	Type of test. Use code from rt_test_type.test_type valid values. Examples: 'INITIAL', 'RETRACT1', 'RETRACT2', 'RETRACT3', 'REANALYSIS', 'DILUTION1', 'DILUTION2', and 'DILUTION3'.
G	lab_matrix_code	Text(3)	Y	rt_matrix.matrix_code	This code distinguishes differences between the matrix that was analyzed, and not the matrix of the sample received. Example: TCLP analysis of a soil sample would report "WL" for leachate not "SO" for soil.



Naming and Saving EDDs

- Submittal Manual provides guidance on how files must be saved and named for each file type
- If the naming convention is not followed **exactly** (spelling counts) then the data will not be loaded into EDP.
- It is recommended that the date and facility ID are included in the file names unless otherwise noted.



Demonstration: Populating an EDD

6.2.2 Test Result QC EDD

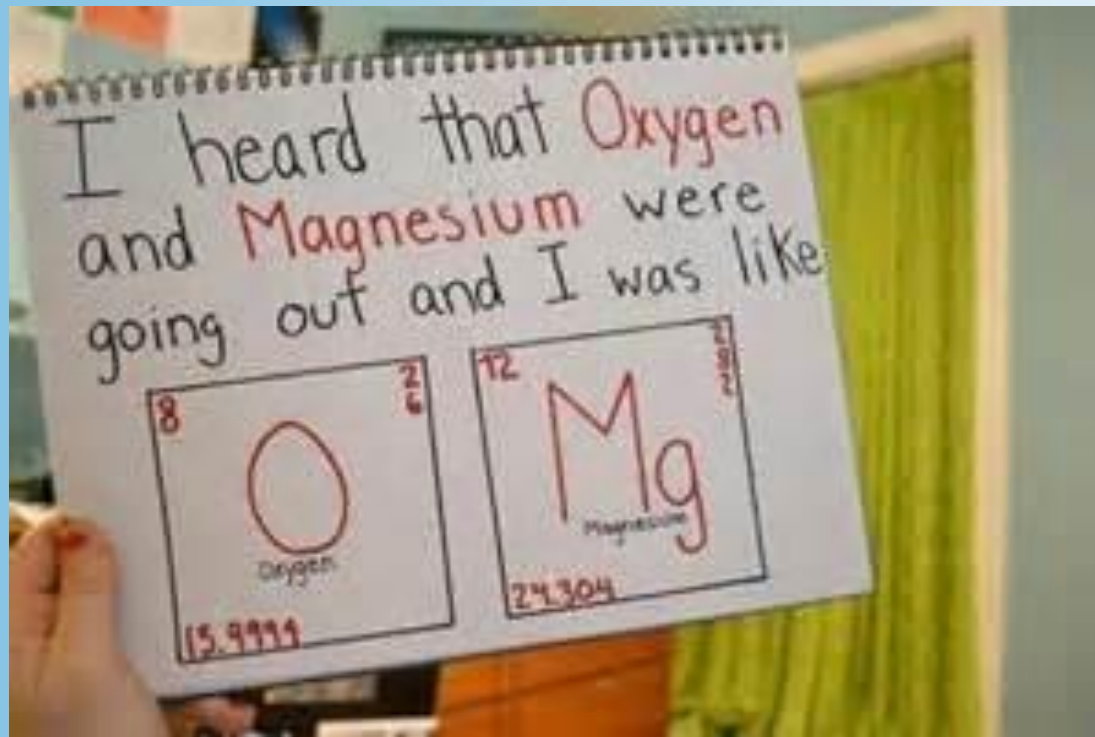
<u>\$sys_sample_code</u>	<u>lab_anl_method_name</u>	<u>analysis_date</u>	<u>fraction</u>	<u>column_number</u>	<u>test_type</u>	<u>lab_matrix_code</u>
<i>\$Text(40)</i>	<i>Text(35)</i>	<i>DateTime</i>	<i>Text(10)</i>	<i>Text(2)</i>	<i>Text(10)</i>	<i>Text(3)</i>
SB-005S-20140501	SW8270	2014/5/7 19:00:00	T	NA	Initial	SO
SB-005S-20140501	SW6010	2014/5/8 10:00:00	T	NA	Initial	SO
SB-005S-20140501	SW8260	2014/5/7 17:00:00	T	NA	Initial	SO
SB-005S-MS-20140501	SW8260	2014/5/7 18:05:00	T	NA	Initial	SO
SB-005S-MS-20140501	SW8260	2014/5/7 18:05:00	T	NA	Initial	SO

<u>analysis_location</u>	<u>basis</u>	<u>container_id</u>	<u>dilution_factor</u>	<u>prep_method</u>	<u>prep_date</u>	<u>leachate_method</u>	<u>leachate_date</u>
<i>Text(2)</i>	<i>Text(10)</i>	<i>Text(30)</i>	<i>Numeric</i>	<i>Text(20)</i>	<i>DateTime</i>	<i>Text(15)</i>	<i>DateTime</i>
LB	Dry		2	SW3550	2014/5/6 16:04:00		
LB	Dry		2				
LB	Dry		50	SW5030	2014/5/3 12:15:00		
LB	Dry		50	SW5030			
LB	Dry		50	SW5030			

<u>lab_name_code</u>	<u>qc_level</u>	<u>lab_sample_id</u>	<u>percent_moisture</u>	Additional Fields	<u>cas_nm</u>	<u>chemical_name</u>	<u>result_value</u>	<u>result_error_delta</u>
<i>Text(20)</i>	<i>Text(10)</i>	<i>Text(40)</i>	<i>Text(5)</i>		<i>Text(15)</i>	<i>Text(75)</i>	<i>Numeric</i>	<i>Text(20)</i>
XYZ Lab	Quant	123456	9.6		86-74-8	Carbazole		
XYZ Lab	Quant	123456	9.6		7440-39-3	Barium	41.8	
XYZ Lab	Quant	123456	9.6		79-01-6	Trichloroethylene		



BREAK



What Does the EDP Do?

EDP Reviews Data for:

- Required Fields
- Field Lengths
- Data Types
- Valid Dates
- Reference Values
- Duplicate Rows
- Range Checking
- Orphan Rows
- Built-in business rules



EDP User's Guide

Table of Contents

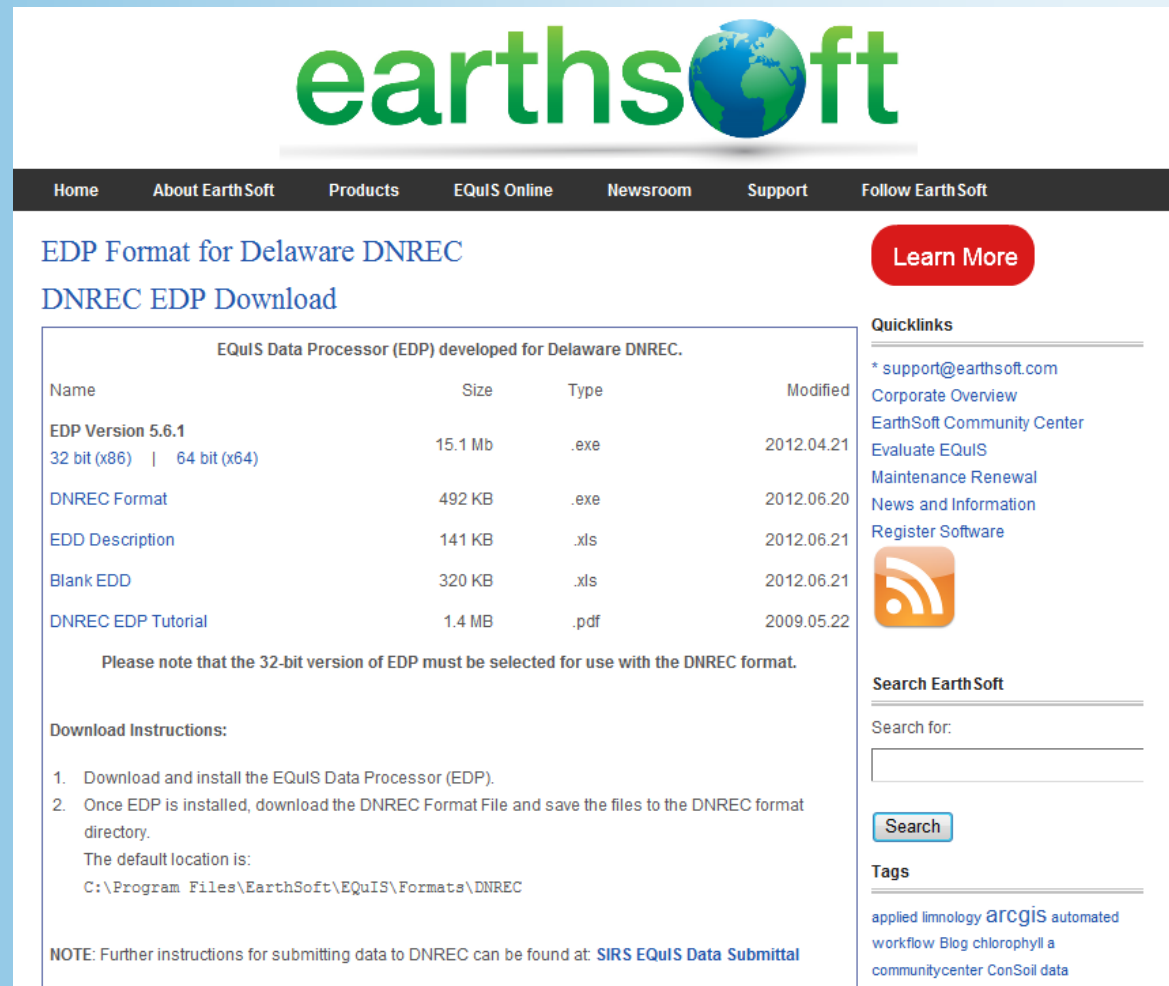
1. THE STANDALONE EQUIS DATA PROCESSOR	3
1.1 GETTING STARTED	3
1.2 FORMAT FILE	4
1.3 UNDERSTANDING THE DNREC FORMAT	7
1.4 REFERENCE VALUE FILE	8
1.5 DATA FILES	10
1.6 LOADING INDIVIDUAL CSV OR TXT DATA FILES	11
1.7 LOADING EXCEL, ACCESS, OR ZIP DATA FILES	11
1.7.1 Excel Files	12
1.7.2 Access Database Files	13
1.7.3 ZIP Data Files	13
1.7.4 Load and Append Multiple Data Files	14
1.8 CLEARING TABLES	15
1.9 FINDING ERRORS	15
1.10 ERROR LOG REPORTS	17
1.11 SAVING MODIFICATIONS	18
1.12 ERROR RESOLUTION	18
1.12.1 Column Headers	19
1.12.2 Reporting Reference Value Errors and Error Logs	20
1.13 TOOLS	20
1.14 EXPORTING BLANK EDD TEMPLATE	23
1.15 EXPORTING EDD DESCRIPTION	24
1.16 SIGN AND SUBMIT	25
1.17 EDP OPTIONS	27
1.17.1 Remember Last Format File	27
1.17.2 Modify Comment Indicator Code & Error Threshold	27
1.17.3 EDP Application Appearance	28

Appendix A: Installing the EQUIS Data Processor (EDP) &
Downloading/Registering the DNREC Format File:
Step-by-Step Instructions



Obtaining EDP and the DNREC EDD Format

1. Download and install EDP
2. Download DNREC Format
3. Download the EDP Tutorial
4. Download the EDD Description and Blank EDD



The screenshot displays the EarthSoft website's 'EDP Format for Delaware DNREC' page. The header features the EarthSoft logo and a navigation bar with links: Home, About EarthSoft, Products, EQuIS Online, Newsroom, Support, and Follow EarthSoft. A red 'Learn More' button is positioned to the right of the page title. Below the title, a table lists available downloads for the EQuIS Data Processor (EDP) developed for Delaware DNREC. The table includes columns for Name, Size, Type, and Modified date. The items listed are EDP Version 5.6.1 (32 bit x86 and 64 bit x64), DNREC Format, EDD Description, Blank EDD, and DNREC EDP Tutorial. A note specifies that the 32-bit version of EDP must be selected for use with the DNREC format. Below the table, 'Download Instructions' are provided, detailing the steps to download and install the EDP and then download the DNREC Format File. The default location for the files is specified as C:\Program Files\EarthSoft\EQuIS\Formats\DNREC. A 'NOTE' at the bottom states that further instructions for submitting data to DNREC can be found at the SIRS EQuIS Data Submittal link. On the right side of the page, there is a 'Quicklinks' section with links to support@earthsoft.com, Corporate Overview, EarthSoft Community Center, Evaluate EQuIS, Maintenance Renewal, News and Information, and Register Software. Below this is a search bar labeled 'Search EarthSoft' and a 'Tags' section with links to applied limnology, arcgis automated workflow, Blog chlorophyll a, and communitycenter ConSoil data.

earthsoft

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EDP Format for Delaware DNREC [Learn More](#)

DNREC EDP Download

EQuIS Data Processor (EDP) developed for Delaware DNREC.

Name	Size	Type	Modified
EDP Version 5.6.1 32 bit (x86) 64 bit (x64)	15.1 Mb	.exe	2012.04.21
DNREC Format	492 KB	.exe	2012.06.20
EDD Description	141 KB	.xls	2012.06.21
Blank EDD	320 KB	.xls	2012.06.21
DNREC EDP Tutorial	1.4 MB	.pdf	2009.05.22

Please note that the 32-bit version of EDP must be selected for use with the DNREC format.

Download Instructions:

1. Download and install the EQuIS Data Processor (EDP).
2. Once EDP is installed, download the DNREC Format File and save the files to the DNREC format directory.
The default location is:
C:\Program Files\EarthSoft\EQuIS\Formats\DNREC

NOTE: Further instructions for submitting data to DNREC can be found at: [SIRS EQuIS Data Submittal](#)

Quicklinks

- * support@earthsoft.com
- Corporate Overview
- EarthSoft Community Center
- Evaluate EQuIS
- Maintenance Renewal
- News and Information
- Register Software

Search EarthSoft

Search for:

[Search](#)

Tags

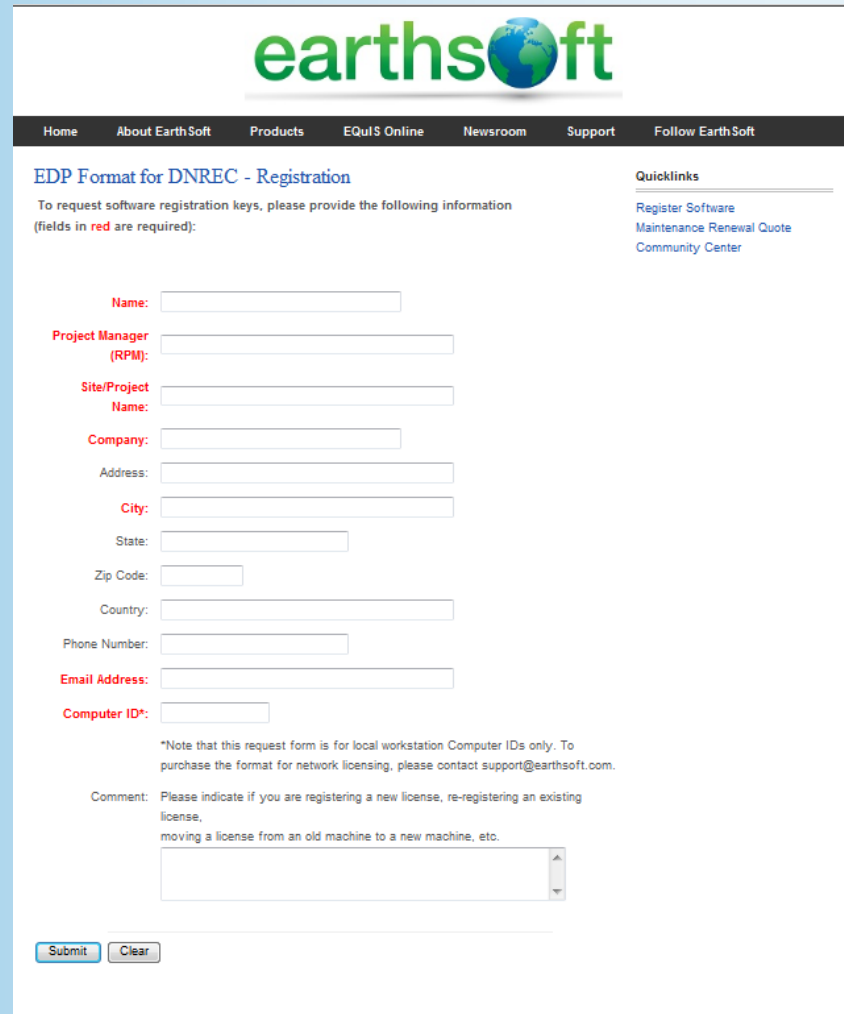
- applied limnology
- arcgis automated workflow
- Blog chlorophyll a
- communitycenter ConSoil data



Register for EDD Format

1. In EDP, open EDD format
2. You will be prompted to register, click register
3. Click [here](#) to request registration key for this computer
4. Fill out the registration form that opens in your browser, submit the form
5. You will receive registration keys in your email from DNREC
6. Go back through the registration process and paste the keys in the registration box. Click Ok.

***Detail directions are in the EDP User's Guide Manual.



The screenshot shows the EarthSoft website's registration page. The header features the EarthSoft logo and a navigation bar with links: Home, About EarthSoft, Products, EQUIS Online, Newsroom, Support, and Follow EarthSoft. The main heading is "EDP Format for DNREC - Registration". Below this, a note states: "To request software registration keys, please provide the following information (fields in red are required):". To the right, a "Quicklinks" section lists: Register Software, Maintenance Renewal Quote, and Community Center. The registration form contains the following fields, with labels in red indicating required information: Name, Project Manager (RPM), Site/Project Name, Company, Address, City, State, Zip Code, Country, Phone Number, Email Address, and Computer ID*. A note specifies that the form is for local workstation Computer IDs only and that network licensing requires contacting support@earthsoft.com. A "Comment" section with a text area is also present. At the bottom, there are "Submit" and "Clear" buttons.

earthsoft

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EDP Format for DNREC - Registration

To request software registration keys, please provide the following information
(fields in red are required):

Quicklinks
[Register Software](#)
[Maintenance Renewal Quote](#)
[Community Center](#)

Name:

Project Manager (RPM):

Site/Project Name:

Company:

Address:

City:

State:

Zip Code:

Country:

Phone Number:

Email Address:

Computer ID*:

*Note that this request form is for local workstation Computer IDs only. To purchase the format for network licensing, please contact support@earthsoft.com.

Comment: Please indicate if you are registering a new license, re-registering an existing license, moving a license from an old machine to a new machine, etc.

Submit Clear



DEMONSTRATION - EDP

EQuIS Data Processor

Home

Pro

Format

Open

EDD

Error Log

Error Summary

Error Log

Comment Rows

Errors Only

Filter Column(s)

Pin Column(s)

Column Chooser

Add New Row

Copy Row(s)

Set as Comment Row

Clear

Refresh

Find

Sort

Blank EDD

EDD Description

Generate Format File

Tools

Field

DataProvider_v1

Task_v1

Subfacilities_v1

Location_v1

LocationParameter_v1

DrillActivity_v1

Lithology_v1

Well_v1

WellConstruction_v1

GeoSample_v1

WaterLevel_v1

WaterTable_v1

DownholePoint_v1

ExtractionInjectionWells_v

Equipment_v1

Purge_v1

BasicResults_v1

FieldSample_v1

SampleParameter_v1

FieldResults_v1

COC_v1

Lab

LabSample_v1

TestResults_v1

TestResultsQC_v1

TestBatch_v1

Files_v1

Rows: 211 of 211 [Comment R]

container_id	dilution_factor	prep_method	prep_date	leachate_method	leachate_date	lab_name_code	qc_level
container_id	dilution_factor	prep_method	prep_date	leachate_method	leachate_date	lab_name_code	qc_level
	1		4/21/2014 00:00:			EPAR10Lab	QUANT
	1		4/22/2014 00:00:			EPAR10Lab	QUANT
	1		4/21/2014 00:00:			EPAR10Lab	QUANT
	1		4/21/2014 00:00:			EPAR10Lab	QUANT
	1		4/21/2014 00:00:			EPAR10Lab	QUANT
	1		4/22/2014 00:00:			EPAR10Lab	QUANT
	1		4/22/2014 00:00:			EPAR10Lab	QUANT
	1		4/22/2014 00:00:			EPAR10Lab	QUANT
	1		4/22/2014 00:00:			EPAR10Lab	QUANT
	1		4/21/2014 00:00:			EPAR10Lab	QUANT
	1		4/22/2014 00:00:			EPAR10Lab	QUANT
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	1		4/21/2014 00:00:			EPAR10Lab	QUANT
	1		4/22/2014 00:00:			EPAR10Lab	QUANT
	1		4/22/2014 00:00:			EPAR10Lab	QUANT
	1		4/22/2014 00:00:			EPAR10Lab	QUANT

Adding a New Reference Value

Please follow DNREC reference values as closely as possible when populating EDD files. However, if you need to add a new reference value to the database/reference value file, please send an email to DNREC_EQuIS@state.de.us including:

1. Your name and company name
2. Reference value you want to add
3. Name of reference table the value belongs in (i.e. rt_analyte)
4. Brief description of the reference value (i.e. for lab qualifiers, analytic methods)
5. Error Log as attachment (optional)

Once the reference value is approved and added to the database, an updated DNREC.rvf will be available. When the datasets are checked using this updated file, the errors associated with this reference value will be eliminated.



Sign and Submit

- Once the EDD is free of errors, you are ready to “Sign and Submit” your EDD.
- Select the “Sign and Submit” button in EDP.
- You will be prompted to enter your username, password and the facility code (DE #) for the data. This username and password is provided to you when you initially register the DNREC EDD format file. Please submit a request to DNREC_EQuIS@state.de.us if you did not receive a username and password



Sign and Submit

- This Sign and Submit feature will automatically save your data as .csv (or .txt) files within a zipped file named in the following format *Current date.Facility code.Format file name* (ex 20111205.DE-1365.DNREC.zip) with your “user certificate” included within the zip file as well.
- A user certificate (“username.usr”) is a file that identifies a valid user.
- After the zipped file is created, this “EDD Package” can be submitted to DNREC at [DNREC EQuIS@state.de.us](mailto:DNREC_EQuIS@state.de.us).
- Please refer to the EDP User Guide for more details regarding the Sign and Submit tool.
- **Note: Labs do not need to use the Sign and Submit tool.**



Submit EDD to DNREC

- After the zipped file is created, this “EDD Package” can be submitted to DNREC at [DNREC EQuIS@state.de.us](mailto:DNREC_EQuIS@state.de.us).
- The title of the email should be: DNREC Original Submittal
- CC your DNREC Project Manager on the submittal email.
- If your submittal is accepted you and your project manager will receive an acceptance email.
- If there is a problem with your submittal you will receive an email with a list of errors to correct.
- When you resubmit the EDD, the title and the body of the email should state that this is a corrected submittal.



Role of DNREC Project Managers

- Point contractors to DNREC EDD web page
- Connect contractor to DNREC staff when questions arise about EDDs
- Verifying contractors have successfully submitted data
- Withholding report approval if data has not been submitted



Resources

- Blank EDD
- EDD Description File
- DNREC EDD Submittal Manual
- EDP User's Guide
- Valid Values Spreadsheet

- DNREC EDD Web Page

http://www.dnrec.delaware.gov/dwhs/SIRB/Pages/SIRB_EQuIS.aspx

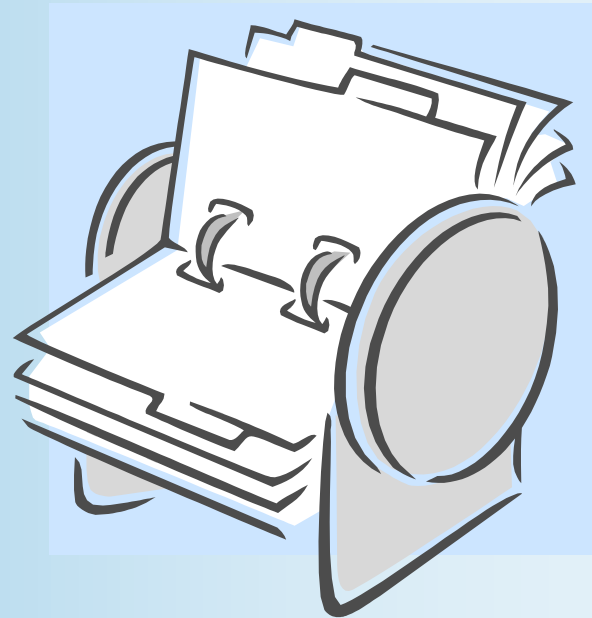
- EarthSoft DNREC EDD Web Page

<http://www.earthsoft.com/products/edp/edp-format-for-dnrec/>



DNREC Point of Contact

- Steph Scholl –
Stephanie.Scholl@state.de.us
- Randy Wolfe –
Randall.Wolfe@state.de.us



Questions?

